

PRODUCT INFORMATION



Interleukin-6Ra/CD126 Chimeric Monoclonal Antibody (Clone rhPM-1 (Tocilizumab)) Item No. 37171

Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	gp80, IL6RA, Interleukin-6 Receptor Subunit α, Membrane Glycoprotein 80
Immunogen:	Recombinant human IL-6Ra
Cross Reactivity:	(+) Human
Species Reactivity:	(+) IL-6Ra, sIL-6Ra
Uniprot No.:	P08887
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Clone:	rhPM-1 (Tocilizumab)
Host:	Chimeric Monoclonal Antibody
Isotype:	IgG1κ
Application:	ELISA; the optimal working concentration/dilution should be determined empirically.

Description

Interleukin-6Ra (IL-6Ra), also known as CD126, is a type I cytokine receptor.¹ It is composed of an immunoglobulin-like domain, a cytokine-binding domain, a transmembrane domain, and a cytoplasmic domain and forms a heteromeric complex with IL-6 and gp130, which is the signal transducing subunit of the IL-6R that primarily acts through the JAK/STAT3 pathway.² IL-6Ra is expressed in hepatocytes and monocytes and is localized to the plasma membrane but also exists as a soluble form (sIL-6Ra) that is primarily generated *via* proteolytic cleavage of membrane-bound IL-6Ra, but can also be formed *via* alternative splicing.³⁻⁵ Binding of IL-6 to membrane-bound IL-6Ra, known as classical signaling, upregulates the synthesis of acute phase proteins, induces lipolysis in the liver, and induces the differentiation of T and B cells and is primarily anti-inflammatory.^{6,7} Trans-signaling consists of IL-6 binding to sIL-6R, which has various pro-inflammatory effects. Knockdown of *IL6R* increases sensitivity to tamoxifen in breast cancer cells.⁸ Formulations containing chimeric anti-IL-6Ra monoclonal antibodies have been used in the treatment of rheumatoid arthritis, idiopathic arthritis, giant cell arteritis, cytokine release syndrome, and COVID-19. Cayman's Interleukin-6Ra/CD126 Chimeric Monoclonal Antibody (Clone rhPM-1 (Tocilizumab)) was produced recombinantly from the original rhPM-1 antibody and can be used for ELISA. The rhPM-1 antibody was generated by CDR grafting of mouse PM-1 antibody onto human RE1 and NEW framework regions.⁹

References

1. Hirano, T. *Int. Rev. Immunol.* **16(3-4)**, 249-284 (1998).
2. Salvati, A.L., Lahm, A., Paonessa, G., *et al. J. Biol. Chem.* **270(20)**, 12242-12249 (1995).
3. Bauer, J., Lengyel, G., Bauer, T.M., *et al. FEBS Lett.* **249(1)**, 27-30 (1989).
4. Flynn, C.M., Kespohl, B., Daunke, T., *et al. J. Biol. Chem.* **296**, 100434 (2021).
5. Riethmueller, S., Somasundaram, P., Ehlers, J.C., *et al. PLoS Biol.* **15(1)**, e2000080 (2017).
6. Del Giudice, M. and Gangestad, S.W. *Brain Behav. Immun.* **70**, 61-75 (2018).
7. Rose-John, S. *Cold Spring Harb. Perspect. Biol.* **10(2)**, a028415 (2018).
8. Tsoi, H., Man, E.P.S., Chau, K.M., *et al. Cancers (Basel)* **13(7)**, 1511 (2021).
9. Sato, K., Tsuchiya, M., Saldanha, J., *et al. Cancer Res.* **53(4)**, 851-856 (1993).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/07/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM